

**APPENDIX A**  
**RESOURCE PROGRAM BEST MANAGEMENT PRACTICES**

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Best management practices are management actions that have been developed by agency, industry, scientific, and/or working groups as methods for reducing environmental impacts to certain resources associated with certain kinds of activity. They have been organized by the source of the best management practice. Section 1 and Section 2 have been developed by the Ely District Office specifically to guide management in the decision area. Section 3 contains the Wind Energy EIS best management practices, which was developed by the BLM Washington Office and is applied nationally.

Best management practices typically are implemented at the discretion of the BLM Authorized Officer (the District Manager or his/her designee) at the activity plan or project-specific level. The impact analysis in any project-specific National Environmental Policy Act (NEPA) document would be based on the reduction of impacts afforded by the application of those best management practices that are appropriate for the specific project under review. Best management practices may be added, deleted, or modified through plan maintenance as new and better information dictates.

**APPENDIX A, SECTION 1**  
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Section 1 contains best management practices for the Ely District Office. They have been organized by the primary resource the best management practices would benefit or protect. Each best management practice could actually be implemented by a number of resource programs within the Field Office. Between the Draft RMP/EIS and the Proposed RMP/Final EIS, certain best management practices have been incorporated into Chapter 2.0 of the Approved RMP as management actions, edited for clarity, or deleted because they are no longer appropriate. Best management practices would be implemented at the discretion of the Ely District Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases.

## **APPENDIX A, SECTION 1**

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### **Air Resources**

1. Use dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust.
2. Post and enforce speed limits (e.g., 25 miles per hour) to reduce airborne fugitive dust.
3. Cover construction materials and stockpiled soils if they are a source of fugitive dust.
4. Use dust abatement techniques before and during surface clearing, excavation, or blasting activities.

### **Water Resources**

1. Avoid the application of fire retardant or foam within 300 feet of a stream channel or waterway, when possible, except for the protection of life and property. Aerial application and use of retardants and foams would be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.
2. Fire engines that have surfactant foam mixes in tanks must be fitted with an anti-siphon (back flow protection valve) if filled directly from a stream channel.
3. Construct a containment barrier around all pumps and fuel containers utilized within 100 feet (30.5 meters) of a stream channel. The containment barrier would be of sufficient size to contain all fuel being stored or used on site.
4. Prior to use on lands administered by the Ely Field Office, all fire suppression equipment from outside the planning area utilized to extract water from lakes, streams, ponds, or spring sources (e.g., helicopter buckets, draft hoses, and screens) will be thoroughly rinsed to remove mud and debris and then disinfected to prevent the spread of invasive aquatic species. Rinsing equipment with disinfectant solution will not occur within 100 feet of natural water sources (i.e., lakes, streams, or springs). Ely suppression equipment utilized to extract water from water sources known to be contaminated with invasive aquatic species, as identified by the U.S. Fish and Wildlife Service and Nevada Department of Wildlife, also will be disinfected prior to use elsewhere on lands administered by the Ely Field Office.
5. Do not dump surfactant foam mixes from fire engines within 600 feet of a stream channel.
6. Do not conduct fire retardant mixing operations within 600 feet of a stream channel.
7. Remove all modifications made to impound or divert stream flow by mechanical or other means to facilitate extraction of water from a stream for fire suppression efforts when suppression efforts are completed.
8. When drafting or dipping water during fire operations, continuously monitor water levels at the site that water is being removed from. Do not allow water extraction to exceed the ability of the recharge inflow

to maintain the water levels that exist at the time initial attack efforts began. If the water level drops below this predetermined level, all water removal would cease immediately until water levels are recharged.

9. When possible, do not cross or terminate fire control lines at the stream channel. Terminate control lines at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
10. Construct access roads and fords that cross stream channels to BLM road standards.
11. Do not construct new roads or mechanical fire control lines or improve existing roads within 300 feet of a stream channel unless authorized by the BLM Field Manager or Authorized Officer.
12. Limit stream crossings on travel routes and trails to the minimal number necessary to minimize sedimentation and compaction. The BLM Authorized Officer will determine if any impacts need to be rehabilitated by the permittee.
13. Conduct mixing of herbicides and rinsing of herbicide containers and spray equipment only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).
14. A water well may be accepted by the BLM Ely Field Office upon completion of operations. The BLM authorized officer will make the determination whether to accept the well based upon the submission of the well completion forms and relevant hydrogeologic data reports. The well must be installed by drillers licensed by the state of Nevada according to specifications in Nevada Revised Statutes Title 48, Chapter 534.

### **Soil Resources**

1. Require the use of specialized low-surface impact equipment (e.g., balloon tired vehicles) or helicopters, as determined by the BLM Authorized Officer, for activities in off-road areas where it is deemed necessary to protect fragile soils and other resource values.
2. During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, the operator would contact the BLM Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.
3. When preparing the site for reclamation, include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, as determined appropriate for site-specific conditions.
4. Upon completion or temporary suspension of mining operations, backfill all holes and trenches and re-contour the pit to the natural slope, if possible, with pit walls greater than 3 feet in height knocked down and sloped at 3 horizontal to 1 vertical or to the original topography, whichever is less.

## **APPENDIX A, SECTION 1**

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5. Restoration requirements include reshaping, re-contouring, and/or resurfacing with topsoil, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Fertilization and/or fencing of the disturbance may be required. Additional erosion control measures (e.g., fiber matting and barriers) to discourage road travel may be required.

### **Vegetation Resources**

1. Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.
2. The BLM Authorized Officer will specify required special handling and recovery techniques for Joshua trees, yucca, and some cactus in the southern part of the planning area on a site-specific basis.
3. Keep removal and disturbance of vegetation to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.).
4. Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-complete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting.
5. Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Nevada noxious weed list.
6. An area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. Use the Nevada Guidelines for Successful Revegetation prepared by the Nevada Division of Environmental Protection, the BLM, and the U.S. Department of Agriculture Forest Service (or most current revision or replacement of this document) to determine if revegetation is successful.
7. Reclamation bond release criteria would include the following:
8. The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas (normally adjacent habitat). If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730. The reclamation plan for the area project would identify the site-specific release criteria and associated statistical methods in the reclamation plan or permit.

9. Utility companies will manage vegetation in their rights-of-way for safe and reliable operation while maintaining vegetation and wildlife habitat.
10. Respread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.

### **Fish and Wildlife**

1. Install wildlife escape ramps in all watering troughs, including temporary water haul facilities, and open storage tanks. Pipe the overflow away from the last water trough on an open system to provide water at ground level.
2. As appropriate, mark certain trees on BLM-administered lands for protection as wildlife trees.
3. Consider seasonal distribution of large wildlife species when determining methods used to accomplish weed and insect control objectives.
4. Protect active raptor nests in undisturbed areas within 0.25 mile of areas proposed for vegetation conversion using species-specific protection measures. Inventory areas containing suitable nesting habitat for active raptor nests prior to the initiation of any project.
5. When used to pump water from any pond or stream, screen the intake end of the draft hose to prevent fish from being ingested. Screen opening size would be a maximum of 3/16 inch (4.7 millimeters).
6. Special recreation use permittees will take action to ensure that race participants and spectators do not harass wildlife.

### **Special Status Species**

1. Avoid line-of-sight views between the power poles along powerlines and sage grouse leks, whenever feasible.
2. Use current science, guidelines, and methodologies (Avian Power Line Interaction Committee 1994, 1996, 2005) for all new and existing powerlines to minimize raptor and other bird electrocution and collision potential.
3. When managing weeds in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.
4. Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.



## **APPENDIX A, SECTION 1**

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5. To the greatest extent possible, survey all mine adits and shafts slated for closure for bat presence and use prior to being closed. Minimize impacts to bat roosts and bat habitat through the use of current science, guidelines, and methodologies when closing and abandoning mine adits.
6. Develop grazing systems to minimize conflicts with special status species habitat.
7. For streams currently occupied by any special status species, do not allow extraction of water from ponds or pools if stream inflow is minimal (i.e., during drought situations) and extraction of water would lower the existing pond or pool level.
8. When new spring developments are constructed on BLM lands and BLM has the authority to design the project, the source and surrounding riparian area will be fenced, the spring will be developed in a manner that leaves surface water at the source and maintains the associated riparian area, water will be provided outside the enclosure in a manner that provides drinking water for large ungulates, wild horses, and/or livestock so they are less likely to break into the enclosure.
9. Salt and mineral supplements:
  - Base placement of salt and mineral supplements on site-specific assessment.
  - Normally place salt and mineral supplements at least 0.5 mile away from riparian areas, sensitive sites, populations of special status plant species, cultural resource sites.
  - Place salt at least 0.5 mile from any water source including troughs.
  - Place salt and mineral supplements at least 1 mile from sage grouse leks.

### **Water hauling:**

- Place water haul sites at least 0.5 mile away from riparian areas, cultural sites, and special status species locations.
- Limit water hauling to existing roads when possible.

### **Wild Horses**

1. To protect wild horses and wildlife flag all new fences every 16 feet with white flagging that is at least 1 inch wide and has at least 12 inches hanging free from the top wire of the fence.
2. If a project involves heavy or sustained traffic, require road signs for safety and protection of wild horses and wildlife.

**Cultural Resources**

1. Ensure that all activities associated with the undertaking, within 100 meters of the discovery, are halted and the discovery is appropriately protected, until the BLM authorized officer issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:
  - Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;
  - The fieldwork phase of the treatment option has been completed; and
  - The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work.
2. The operator will inform all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.
3. The BLM may approve cross-country operations of seismic trucks and support vehicles on bare frozen ground or over sufficient snow depth (vehicle traffic does not reveal the ground) so as to prevent surface disturbance.
4. Perform viewshed reclamation when the setting of a site contributes to the significance of the property.

**Paleontological Resources**

1. When paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), leave them intact and immediately bring them to the attention of the BLM Authorized Officer.

**Visual Resources**

1. On industrial facilities authorized by the Ely Field Office, utilize anti-glare light fixtures to limit light pollution.
2. During the implementation of vegetation treatments, create irregular margins around treatment areas to better maintain the existing scenic character of the landscape.
3. When feasible, bury utility lines on public land when in the viewshed of residential or community development.

**Travel Management and Off-highway Vehicle Use**

1. Design access roads requiring construction with cut and fill to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill

## **APPENDIX A, SECTION 1**

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material would be deposited, resource concerns, and visual contrast. Avoid construction of access roads on steep hillsides and near watercourses where alternate routes provide adequate access.

2. Where adverse impacts or safety considerations warrant, limit or prohibit public access when authorizing specific routes to areas or sites under permit or lease.

### **Recreation**

1. Do not allow surface or underground disturbance to occur within 100 yards (horizontally or vertically) of known cave resources.
2. Where appropriate, do not allow ground disturbing activities within 100 yards of cave entrances, drainage areas, subsurface passages, and developed recreation sites. Do not dispose of waste material or chemicals in sinkholes or gates by cave entrances. If during construction activities any sinkholes or cave openings are discovered, cease construction activities and notify the BLM authorized officer.

### **Livestock Grazing**

1. Water troughs
  - Place troughs connected with spring developments outside of riparian and wetland habitats to reduce livestock trampling damage to wet areas.
  - Control trough overflow at springs with float valves or deliver the overflow back into the native channel.
2. Based on allotment situations and circumstances associated with livestock grazing and multiple use management, implement any or all of the following appropriate management practices on winterfat dominated ecological sites.
  - Develop grazing systems to control or rest grazing use on winterfat sites after March 1 or when the critical growing season begins. Allow spring grazing use during the critical growing period if a grazing rotation system that provides rest from grazing during the critical growing period at least every other year for all areas is in place. Utilization during the critical growth period should not exceed 35 percent under any circumstances.
  - Place salt and supplements at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
  - Locate sheep bedding grounds and camps at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate water haul sites at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
- Construct livestock reservoirs away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
- If water wells are approved to be drilled in winterfat dominated sites, strive to pipe the water at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

### **Mineral Extraction**

1. Applications for permit to drill would follow the best management practices as outlined in the BLM oil and gas Gold Book ([http://www.blm.gov/wo/st/en/prog/energy/oil\\_and\\_gas/best\\_management\\_practices/gold\\_book.html](http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html)), as well as on-shore regulations, individual surface use plans, and conditions of approval that may be part of the Record of Decision for EISs or Decision Records for environmental assessments/Findings of No Significant Impacts, Documentation of NEPA Adequacy, and Categorical Exclusions prepared for site-specific projects.
2. Do not permit blasting if it would be detrimental to the significant characteristics of archeological or historical values, recreation areas, known caves, water wells, or springs.
3. Notify the BLM authorized officer within 5 days of completion of reclamation work so that timely compliance inspections can be completed.

### **Watershed Management**

1. Manage activities, uses, and authorizations on burned areas to best meet resource management objectives established for the area in specific stabilization, restoration, or activity plans. The BLM authorized officer may open areas to livestock grazing based upon those considerations.

### **Fire Management**

1. Notify valid existing land users (such as mine claimants, holders of rights-of-way, and livestock permittees) prior to implementation of prescribed fires that may affect their investments.
  2. Remove vegetation, where appropriate, to protect facilities (e.g., range improvements, communication sites, and recreation sites).
  3. Within the area of operation, every effort will be made to prevent, control, or suppress any fire. Fire-fighting equipment may be required to be on site while operations are in progress, depending on hazards inherent in the type of operation and fire hazard levels. Report uncontrolled fires immediately to
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## **APPENDIX A, SECTION 1**

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the BLM Ely Field Office Manager or Authorized Officer. The BLM Fire Dispatch telephone number is (775) 289-1925 or 1-800-633-6092. After working hours, call 911 or the White Pine County Sheriff's Office at (775) 289-8801, the Lincoln County Sheriff's Office at (775) 962-5151, or the Nye County Sheriff's Office at (775) 482-8101.

### **Noxious and Invasive Weed Management**

1. Control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.
2. When maintaining unpaved roads on BLM-administered lands, avoid the unnecessary disturbance of adjacent native vegetation and the spread of weeds. Grade road shoulders or barrow ditches only when necessary to provide for adequate drainage. Minimize the width of grading operations. The BLM Authorized Officer will meet with equipment operators to ensure that they understand this objective.

### **Health and Safety**

1. Consider nozzle type, nozzle size, boom pressure, and adjuvant use and take appropriate measures for each herbicide application project to reduce the chance of chemical drift.
2. All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.
3. Prior to commencing any chemical control program, and on a daily basis for the duration of the project, the certified applicator will provide a suitable safety briefing to all personnel working with or in the vicinity of the herbicide application. This briefing will include safe handling, spill prevention, cleanup, and first aid procedures.
4. Store all pesticides in areas where access can be controlled to prevent unauthorized/untrained people from gaining access to the chemicals.
5. Do not apply pesticides within 440 yards (0.25 mile) of residences without prior notification of the resident.
6. Areas treated with pesticides will be adequately posted to notify the public of the activity and of safe re-entry dates, if a public notification requirement is specified on the label of the product applied. The public notice signs will be at least 8 1/2" x 11" in size and will contain the date of application and the date of safe re-entry.
7. The recreation permittee will post warning signs at all known mine shafts and other hazardous areas that occur within 100 feet of a race course or pit/spectator area and will verbally inform race participants of all hazards at the pre-race meeting.

8. The recreation permittee will assume liability for and clean up of any and all releases of hazardous substances or oil (more than one quart) disposed on public land as defined in the National Oil and Hazardous Substances Contingency Plan (Title 40 Code of Federal Regulations Subpart 300). The permittee will immediately notify the BLM Authorized Officer of any and all releases of hazardous substances or oil (more than one quart) on public land.
9. Properly dispose of all tailings, dumps, and deleterious materials or substances. Take measures to isolate, control, and properly dispose of toxic and hazardous materials.
10. Remove and properly dispose of all trash, garbage, debris, and foreign matter. Maintain the disposal site and leave it in a clean and safe condition. Do not allow burning at the site.
11. Do not drain oil or lubricants onto the ground surface. Immediately clean up any spills under 25 gallons; clean up spills over 25 gallons as soon as possible and report the incident to the BLM Authorized Officer and Nevada Division of Environmental Protection.
12. The operator will work with the BLM Authorized Officer on the containment of drilling fluids and drill hole cuttings. Adequately fence, post, or cover mud and separation pits, and hazardous material storage areas.
13. Locate powder magazines at least 0.25 mile from traveled roads. Attend loaded shot holes and charges at all times. Use explosives according to applicable federal and state regulations.
14. Containerize petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants in approved containers. Properly store hazardous materials in separate containers to prevent mixing, drainage, or accidents.

**APPENDIX A, SECTION 2**  
**FLUID MINERALS LEASE NOTICES AND STIPULATIONS**

**APPENDIX A, SECTION 2  
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**LEASE NOTICES**

**Cultural Sites**

Lands within this lease contain areas of known high potential for cultural resources. Properties known at the time of lease announcement that are listed on or eligible for the National Register of Historic Places will be avoided, where possible, by means of lease exclusions or by limits on surface use. The preferred avoidance option is to exclude areas containing National Register of Historic Places eligible sites from leasing and all forms of surface disturbance. Cultural sites not avoided may require consultation with State Historic Preservation Officer and treatment plans.

**Historic Sites**

Lands within this lease are in proximity to or contain portions of the Pony Express National Historic Trail, the Hastings Cutoff, the Lincoln Highway, or the Osceola Ditch. Oil and gas exploration and development activities within 1 mile of these sites must undergo a visual assessment in conjunction with environmental review to determine if the activity will adversely affect the visual integrity. Appropriate mitigation will take place as necessary to maintain the management corridor in as natural a condition as possible.

**Desert Tortoise Habitat**

Lands within this lease will require Section 7 consultation prior to any surface disturbance in desert tortoise habitat. The BLM must ensure that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, U.S. Fish and Wildlife Service, and the BLM also must reach concurrence that the proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

**LEASE TIMING STIPULATIONS**

**Resource:**     **Desert Tortoise Habitat**

**Stipulation:**   Timing Limitation. No surface activity would be allowed within desert tortoise habitat from March 1 through October 31 without concurrence from the Forest Service.

**Objective:**     To protect desert tortoise during the most active period to maintain desert tortoise populations.

**Exception:**     An exception to this stipulation may be granted by the authorized officer, in consultation with U.S. Fish and Wildlife Service, if the operator submits a plan that demonstrates that impacts from the proposed action would not adversely affect desert tortoise habitat.



## **APPENDIX A, SECTION 2**

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**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that portions of the area can be occupied without adversely affecting desert tortoise. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that the entire leasehold is no longer occupied by desert tortoise.

**Resource:** **Sage Grouse Nesting Habitat Associated with Leks**

**Stipulation:** Timing Limitation. No surface activity would be allowed within two miles of a sage grouse lek from March 1 through May 15 (June 15).

**Objective:** To protect sage grouse nesting activities associated with leks to maintain sage grouse populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting sage grouse nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains nesting habitat for sage grouse.

**Resource:** **Sage Grouse Winter Range**

**Stipulation:** Timing Limitation. No surface activity would be allowed within winter range for sage grouse from November 1 through March 31.

**Objective:** To protect sage grouse from disturbance during the crucial winter period to maintain sage grouse populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

- Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain sage grouse winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.
- Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains winter range for sage grouse.
- Resource:** **Raptor Nest Sites**
- Stipulation:** Timing Limitation. No surface activity would be allowed from May 1 through July 15 within 0.5 mile of a raptor nest site which has been active within the past five years.
- Objective:** To protect raptor nesting activities to maintain existing populations.
- Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
- Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting raptor nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.
- Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains raptor nest sites.
- Resource:** **Big Game Calving/Fawning/Kidding/Lambing Grounds**
- Stipulation:** Timing Limitation. No surface activity would be allowed within big game calving/fawning/kidding/lambing grounds from April 15 through June 30.
- Objective:** To protect elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep from disturbance during calving, fawning, kidding, and lambing to maintain wildlife populations.
- Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.
- Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be
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## APPENDIX A, SECTION 2

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occupied without adversely affecting big game calving, fawning, kidding, and lambing. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains big game calving/fawning/kidding/lambing grounds.

**Resource:** **Big Game Crucial Winter Range**

**Stipulation:** Timing Limitation. No surface activity would be allowed within big game crucial winter range from November 1 through March 31.

**Objective:** To protect elk, mule deer, and pronghorn antelope from disturbance during the crucial winter period to maintain wildlife populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains crucial winter range for big game.

**Resource:** **Desert Bighorn Sheep Habitat**

**Stipulation:** Timing Limitation. No surface activity would be allowed within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31.

**Objective:** To protect desert bighorn sheep from disturbance during lambing and the crucial hot summer months to maintain existing populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting desert bighorn sheep. The dates for the timing

restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold is no longer occupied by desert bighorn sheep.

#### **LEASE – NO SURFACE OCCUPANCY STIPULATIONS**

**Resource:** Desert Tortoise ACEC

**Stipulation:** No surface occupancy would be allowed within the Beaver Dam Slope ACEC or the Mormon Mesa ACEC.

**Purpose:** These areas encompass the habitat which has been determined to be critical to the survival of the desert tortoise population. The desert tortoise is a listed species under the Endangered Species Act.

**Exception:** The authorized officer may grant an exception (allow surface occupancy) upon completion of formal consultation with the U.S. Fish and Wildlife Service that yields a no-jeopardy opinion if a plan of development is submitted that does not significantly impact tortoise habitats or populations. The plan of development must demonstrate no significant impact will occur through mitigation of impacts, compensation (in accordance with BLM policy), and restoration of the land to pre-disturbance condition.

**Modification:** None

**Waiver:** None

**Resource:** Sage Grouse Leks

**Stipulation:** No surface occupancy. No surface use would be allowed within 0.25 mile of a sage grouse lek.

**Objective:** To protect sage grouse breeding activities and the integrity of the habitat associated with sage grouse leks to maintain sage grouse populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action would not affect breeding activity nor degrade the integrity of the habitat associated with the sage grouse lek.

## APPENDIX A, SECTION 2

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**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting the sage grouse lek.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the lek has been inactive for at least five consecutive years or the habitat has changed such that there is no likelihood the lek would become active.

**Resource:** **Threatened and Endangered and Sensitive Species Sites**

**Stipulation:** No ground disturbance activities would be allowed within the boundaries of areas known to contain unusually high concentrations of threatened, endangered, or BLM or State sensitive species. No surface occupancy would be allowed within the:

Ash Springs ACEC  
Baking Powder Flat ACEC  
Condor Canyon ACEC  
Highland Range ACEC  
Lower Meadow Valley Wash ACEC  
Schlesser Pincushion ACEC  
Shoshone Ponds ACEC  
Swamp Cedar ACEC  
White River Valley ACEC

**Purpose:** To protect threatened and endangered and sensitive species.  
Avoid BLM-approved activities that contribute to a need to list a species or its habitat as threatened or endangered.

**Exception:** None

**Modification:** None

**Waiver:** None

**Resource:** **Cultural Sites**

**Stipulation:** No ground disturbance activities would be allowed within the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the National Register of Historic Places. No surface occupancy would be allowed within the:

Baker Archaeological Site ACEC  
Rock Animal Corral Archaeological Site

Honeymoon Hill/City of Rocks ACEC  
Mount Irish ACEC  
Pahroc Rock Art ACEC  
Rose Guano Bat Cave ACEC  
Shooting Gallery ACEC  
Snake Creek Indian Burial Cave ACEC  
Sunshine Locality National Register District  
White River Archaeological District

**Purpose:** To protect significant cultural properties and archaeological districts and their settings.

**Exception:** None.

**Modification:** None.

**Waiver:** None.

**Resource:** **Paleontological Sites**

**Stipulation:** No ground disturbance activities would be allowed within the boundaries of areas of known paleontological sites/locales. No surface occupancy would be allowed within the:

Andies Mine Trilobite Site

**Purpose:** To preserve and protect significant vertebrate fossils and paleontological sites.

**Exception:** None

**Modification:** None

**Waiver:** None

**Resource:** **Natural, Scenic, and Recreation Sites**

**Stipulation:** No ground disturbance activities would be allowed within the boundaries of areas that exhibit exceptional natural, scenic, or recreational values. No Surface Occupancy would be allowed within the:

Blue Mass Scenic Area ACEC  
Cleve Creek Recreation Site  
Egan Crest Trailhead  
Garnet Hill  
Illipah Reservoir  
Kirch Wildlife Management Area

## APPENDIX A, SECTION 2

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Sacramento Pass Recreation Site  
Ward Mountain Recreation Site  
White Pine County Shooting Range

**Purpose:** To protect the public's opportunity for quality recreation experiences at those sites developed for those purposes.  
To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.  
To control the visual impacts of activities and facilities within acceptable levels.

**Exception:** None

**Modification:** None

**Waiver:** A waiver may be granted for a site if it is moved or eliminated.

**Resource:** **BLM Facilities**

**Stipulation:** No surface occupancy would be allowed within the following withdrawal areas:

Caliente Field Station  
Pony Springs Fire Station

**Purpose:** To protect the operation and maintenance of the BLM's facilities.

**Exception:** None

**Modification:** None

**Waiver:** None

**APPENDIX A, SECTION 3**  
**BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND**  
**BEST MANAGEMENT PRACTICES**



## **BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)**

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM-administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

### **A.1 Policies**

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,<sup>1</sup> Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).<sup>2</sup> Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.
- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

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<sup>1</sup> Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

<sup>2</sup> Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.
- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.
- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.
- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.
- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.
- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.
- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micro-siting considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.
- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."
- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.
- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.

- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.
- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.
- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.
- The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

## **A.2 Best Management Practices (BMPs)**

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

### **A.2.1 Site Monitoring and Testing**

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.
- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.
- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.
- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

### **A.2.2 Plan of Development Preparation**

#### ***General***

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.
- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.
- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.
- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.
- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.
- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and

decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.

- “Good housekeeping” procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

### ***Wildlife and Other Ecological Resources***

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.
- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.
- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).
- The BLM will prohibit the disturbance of any population of federal listed plant species.
- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.
- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.
- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.
- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.
- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

### ***Visual Resources***

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.
- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.
- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding

lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

### ***Roads***

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

### ***Ground Transportation***

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.
- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked thoroughways, and traffic cones to identify any necessary changes in temporary lane configuration.

### ***Noise***

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

### ***Noxious Weeds and Pesticides***

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known



invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.

- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

### ***Cultural/Historic Resources***

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).
- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).
- When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.
- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and

earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

### ***Paleontological Resources***

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.
- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

### ***Hazardous Materials and Waste Management***

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.
- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste

minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

### ***Storm Water***

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

### ***Human Health and Safety***

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.
- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.
- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing

around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.
- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).
- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.
- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.
- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

### **A.2.3 Construction**

#### ***General***

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.
- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.

- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.
- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.
- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.
- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.
- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

### ***Wildlife***

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.
- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

### ***Visual Resources***

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

### ***Roads***

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.
- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.
- Access roads shall be located to follow natural contours and minimize side hill cuts.
- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.
- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.
- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.
- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

### ***Ground Transportation***

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types,

and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.

- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.
- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

### ***Air Emissions***

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.
- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.
- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.
- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

### ***Excavation and Blasting Activities***

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.
- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.
- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

### ***Noise***

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.
- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.
- All stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from nearby residences.
- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

### ***Cultural and Paleontological Resources***

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

### ***Hazardous Materials and Waste Management***

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.
- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.
- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.



- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

### ***Public Health and Safety***

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

## **A.2.4 Operation**

### ***General***

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.
- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

### ***Wildlife***

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.
- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

### ***Ground Transportation***

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

### ***Monitoring Program***

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.
- Results of monitoring program efforts shall be provided to the BLM authorized officer.

### ***Public Health and Safety***

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.
- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

## **A.2.5 Decommissioning**

### ***General***

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.
- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.
- All turbines and ancillary structures shall be removed from the site.

- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.
- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.